

NOTES:

1.) THE LOCATIONS OF EXISTING UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UTILITIES.

2.) VERTICAL DATUM NAVD 1988.

3.) FROM APPROVED DESIGN BY DOUGLAS J. SMITH, SOILSMITH DESIGNS, 15 FOXBERRY DRIVE, NEW BOSTON NH 03070

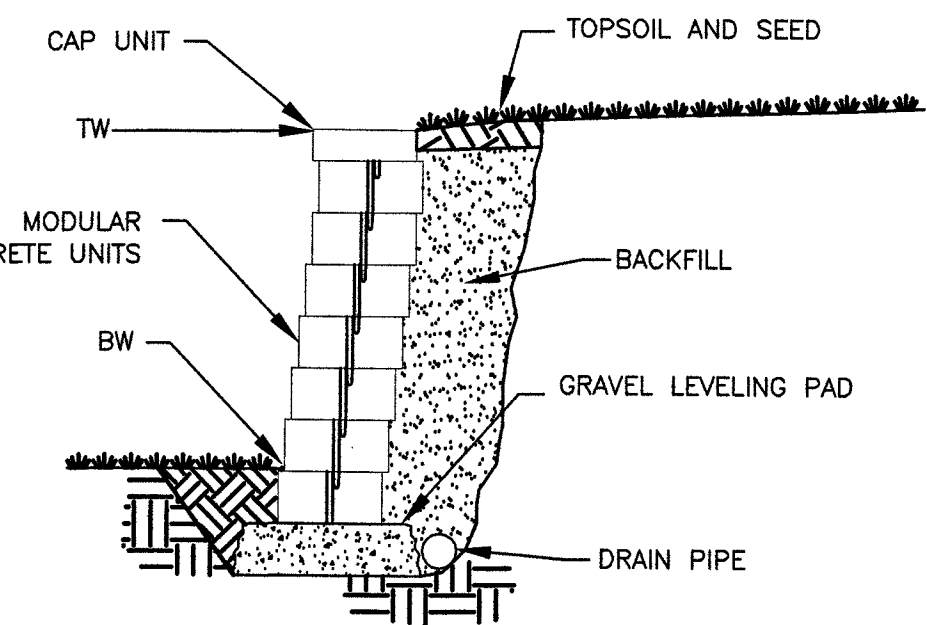
LEGEND

Existing

- 112 --- GRADE CONTOURS
- TREELINE
- PROPERTY LINE
- EDGE OF PAVEMENT
- UTILITY POLE
- PT PERCOLATION TEST
- TP SOIL TEST PIT
- DH FND DRILL HOLE FOUND
- IP FND IRON PIPE FOUND
- IR FND IRON ROD FOUND

Proposed

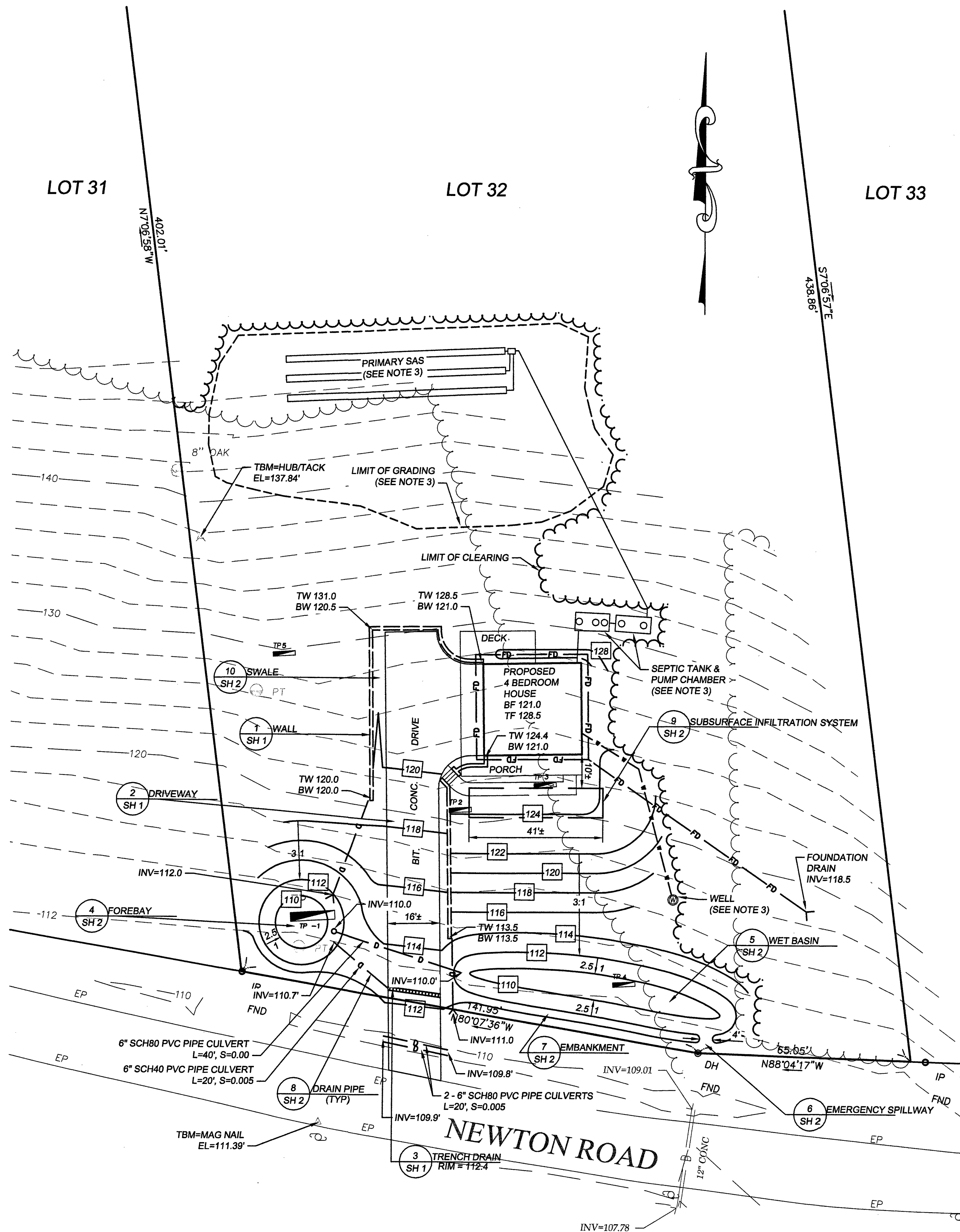
- 36 --- CONTOURS
- TREE LINE
- W --- WATER LINE
- FD --- FOUNDATION DRAIN
- D --- DRAIN PIPE/CULVERT
- EDGE OF PAVEMENT
- === RETAINING WALL
- WELL
- BF BUILDING
- TF BASEMENT FLOOR
- TW TOP OF FOUNDATION
- BW TOP OF WALL
- BW BOTTOM OF WALL



NOTE:

1. INSTALL WALL PER MANUFACTURERS RECOMMENDATIONS

1 TYPICAL SECTION-MODULAR BLOCK RETAINING WALL
NOT TO SCALE



SOIL LOG

DATE OF TESTS 6-8-2016
PRESENT AT TESTS R. BLANCHETTE
PERCOLATION RATE DESIGN 6 MIN./INCH

TP # 1 DATE: 6-8-16 EL. 113.0 ±
0"-9" Ap LS 10YR 3/2
9"-19" Bw FSL 10YR 4/4
19"-52" C FLS 2.5Y 6/2 GRAVELLY

E.S.H.W.T. @ 24"
PERC RATE: 6 MIN/IN @ 16"

TP # 2 DATE: 6-8-16 EL. 120.6 ±
0"-10" Ap LS 10YR 3/2
10"-18" Bw FSL 10YR 4/4
18"-57" C FLS 2.5Y 6/2 GRAVELLY

E.S.H.W.T. @ 16"

TP # 3 DATE: 6-8-16 EL. 121.8 ±
0"-8" Ap LS 10YR 3/2
8"-16" B/C SL 2.5Y 5/4
16"-48" C MED S 2.5Y 4/4 GRAVELLY

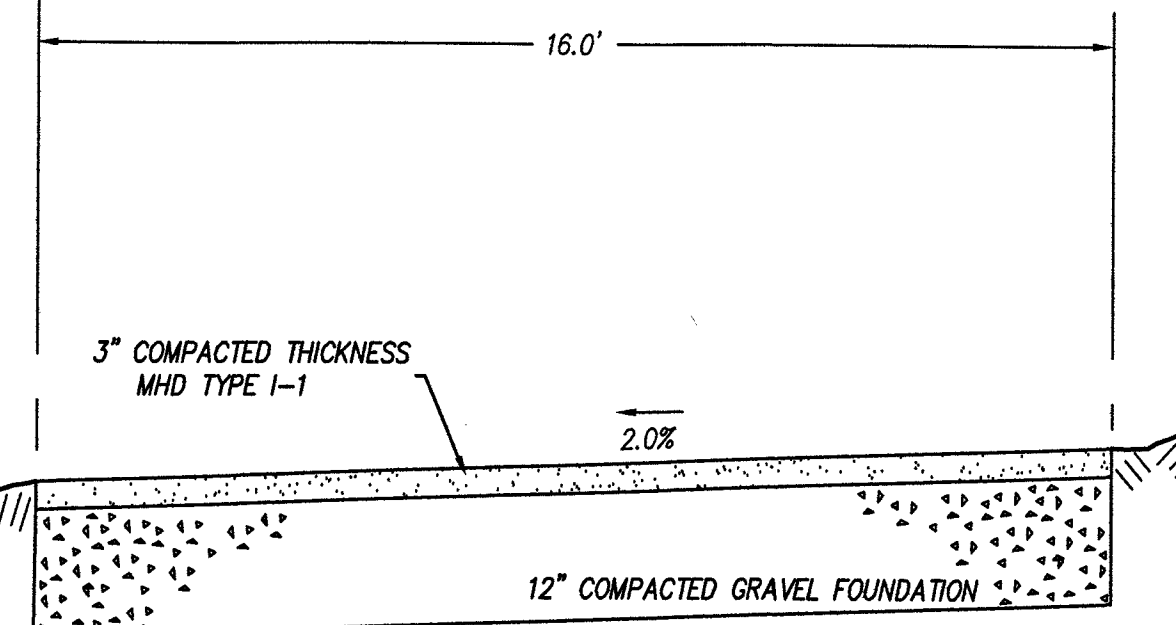
E.S.H.W.T. @ 20"

TP # 4 DATE: 6-8-16 EL. 112.7 ±
0"-10" Ap LS 10YR 3/2
10"-20" Bw SL 2.5Y 5/4
20"-48" C MED S 2.5Y 4/4 GRAVELLY

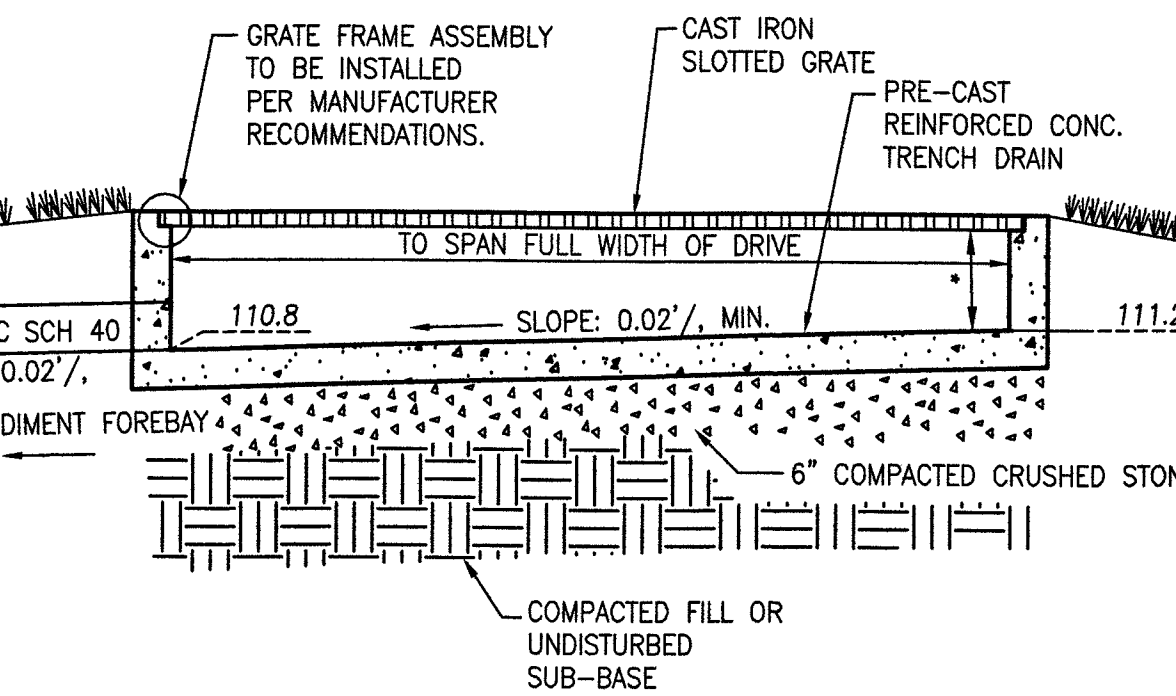
E.S.H.W.T. @ 20"

TP # 5 DATE: 6-8-16 EL. 129.8 ±
0"-10" Ap LS 10YR 3/2
10"-20" Bw SL 2.5Y 5/4
20"-60" C FSL 2.5Y 5/2 GRAVELLY

E.S.H.W.T. @ 24"



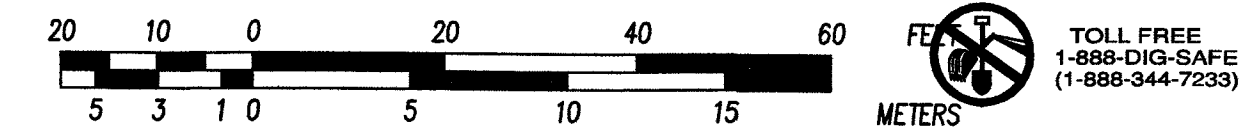
2 DRIVEWAY CROSS SECTION
NOT TO SCALE



* PER MANUFACTURERS SPECIFICATIONS

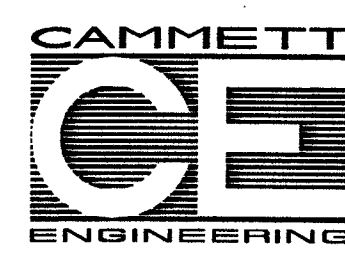
3 TRENCH DRAIN
NOT TO SCALE

SCALE: 1"=20'



TOLL FREE
1-888-DIG-SAFE
(1-888-344-7233)

FOR REGISTRY USE ONLY



297 ELM STREET, AMESBURY, MA.

Phone: (978) 388-2157 Fax: (978) 388-0428

CONSULTING ENGINEERS &
LAND SURVEYORS SINCE 1975

Visit us on the WEB at www.cammett.com

Sheet Title:

Site Plan

Project Title:

Special Permit

31 Newton Road
Amesbury, MA 01913
Essex County

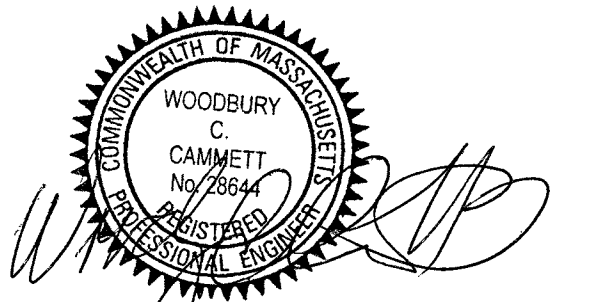
Applicant/Owner:

Hannah & Sean
Stellmach

23 Spindletree Road
Amesbury, MA 01913

REVISION

NO.	DATE	DESCRIPTION	BY

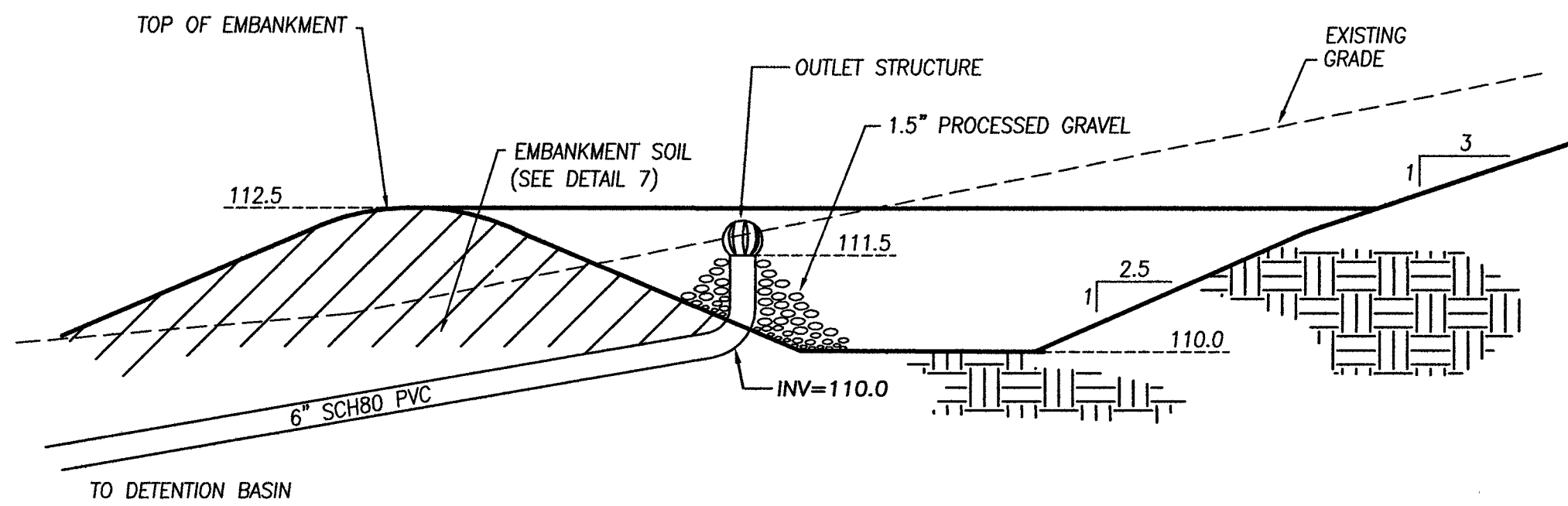


Date:

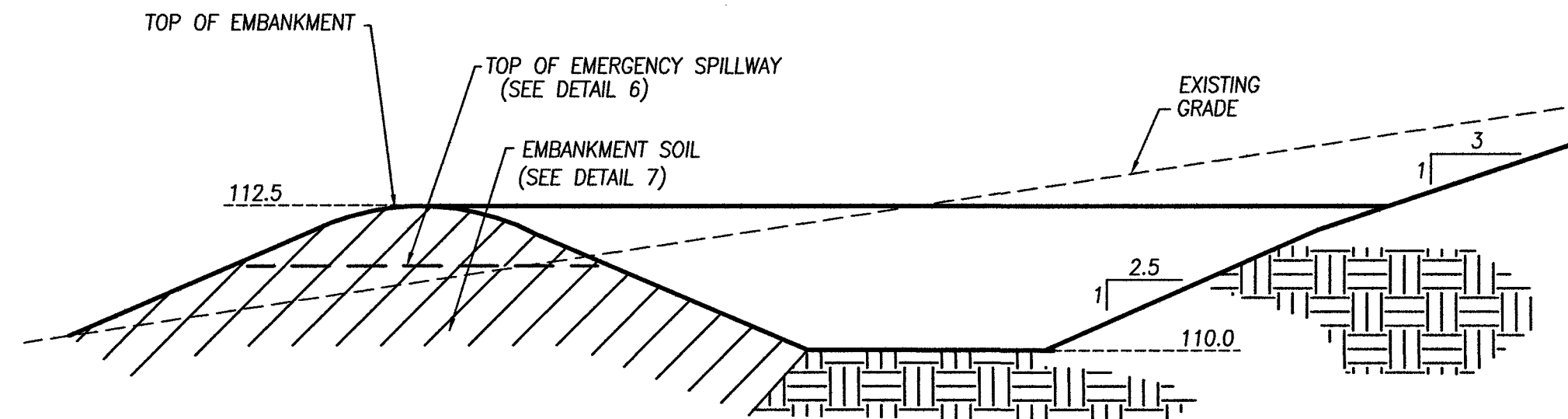
PROJ. MGR.: R. BLANCHETTE
FIELD: M. MICHAUD / J. SALVAGGIO
DESIGN: R. BLANCHETTE
DRAWN: N. KOCH
CHECKED: W. CAMMETT
DATE: 7/5/16
FILE: 16025 SP.DWG
FBK:
JOB #: 16025

SHEET 1 of 2

K:\PROJ CIVIL 3D\2016\16025\DWG\16025.1 SHEET\16025 DT.DWG Krcine 7/7/2016 1:59 PM



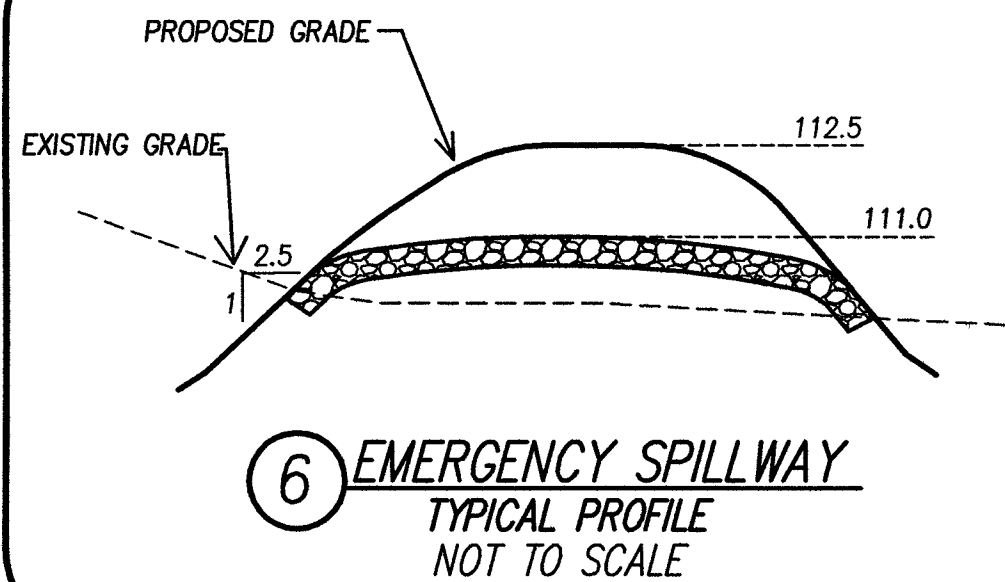
4 SEDIMENT FOREBAY
NOT TO SCALE



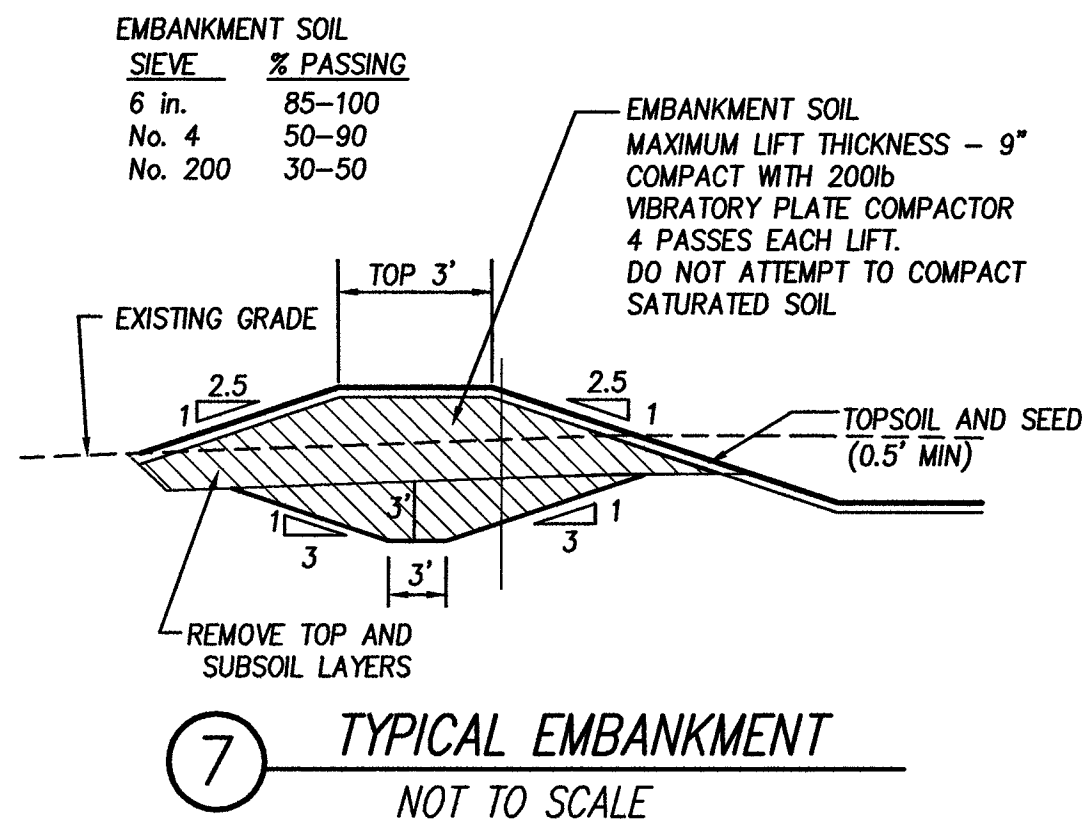
5 WET BASIN
NOT TO SCALE

**NOTE "A": DETENTION BASIN
OPERATION AND MAINTENANCE PLAN**

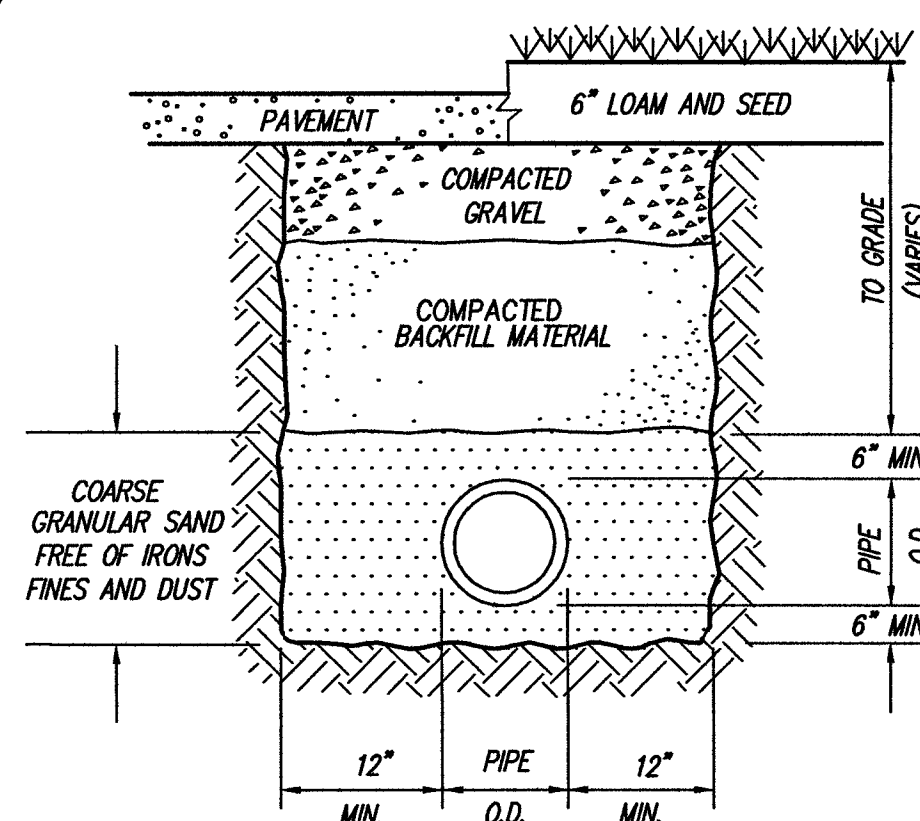
1. Embankment: The embankment should be inspected annually to determine if rodent burrows, wet areas, or erosion of the fill is taking place.
2. Vegetation: The vegetated areas of the structure should be protected from damage by fire, grazing, traffic, and dense weed growth. Lime and fertilizer should be applied as necessary as determined by soil tests. Trees and shrubs should be kept off the embankment and spillway areas.
3. Inlets: Pipe inlets and spillway structures should be inspected annually and after every major storm. Accumulated debris and sediment should be removed. If pipes are coated, the coating should be checked and repaired.
4. Outlets: Pipe outlets should be inspected semi-annually and after every major storm. The condition of the pipes should be noted and repairs made as necessary. If erosion is taking place then measures should be taken to stabilize and protect the affected area of the outlet.
5. Sediment: Sediment should be continually checked. When sediment accumulations reach 6" in thickness anywhere in the basin, then proper permits should be applied for and the sediment should be removed and properly disposed of.
6. Outlet structure should be inspected semi-annually and after every major storm. Silts and debris shall be removed when accumulations reach 12" in depth.
7. Two sites should be reserved for onsite disposal of sediment excavated from the ponds. These sites are to be located such that water draining from the sediment does not flow directly into surface waters.



6 EMERGENCY SPILLWAY
TYPICAL PROFILE
NOT TO SCALE



7 TYPICAL EMBANKMENT
NOT TO SCALE



- NOTE:
1. DRAIN PIPES TO BE PVC
 2. SEE SITE PLAN FOR PIPE SIZES

8 DRAINAGE TRENCH
NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

FOUNDATION PREPARATION — The foundation area shall be cleared of trees, logs, stumps, roots, brush, sod, and rubbish. Foundation surfaces shall be sloped no steeper than 1:1. The foundation area shall be thoroughly scarified before placement of the material. The surface shall have moisture added or it shall be completely compacted if necessary so that the first layer of fill material can be compacted and bonded to the foundations.

The cutoff trench and any other required excavations shall be dug to the lines and grades shown the plans or as staked in the field. If they are suitable, excavated materials shall be used in the permanent fill.

Foundation areas shall be kept free of standing water when fill is being placed on them.

FILL PLACEMENT — The material placed in the fill shall be free of sod, roots, frozen soil, stones more than 6 inches in diameter, and other objectionable material.

Selected backfill material shall be placed around structures, pipe conduits, and antiseep collars at about the same rate on all sides to prevent damage from unequal loading.

The placing and spreading of fill material shall be started at the lowest point of the foundation and the fill brought up in horizontal layers of such thickness that the required compaction can be obtained. The fill shall be constructed in continuous horizontal layers except where openings or sectionalized fills are required. In those cases, the slope of the bonding surfaces between the embankment in place and the embankment to be placed shall not be steeper than 3 horizontal to 1 vertical. The bonding surface shall be treated the same as that specified for the foundation so as to insure a good bond with the new fill.

The distribution and gradation of materials shall be such that no lenses, pockets, streaks, or layers of material differ substantially in texture of gradation from the surrounding material. If it is necessary to use materials of varying texture and gradation, the more impervious material shall be placed in the center and upstream parts of the fill. If zoned fills of substantially differing materials are specified, the zones shall be placed according to the lines and grades shown on the drawings. The complete work shall conform to the lines, grades, and elevations shown on the drawings or as staked on the field.

MOISTURE CONTROL — The moisture content of the fill material shall be adequate for obtaining the required compaction. Material that is too wet shall be dried to meet this requirement, and material that is too dry shall have water added and mixed until the requirement is met.

COMPACTION — Construction equipment shall be operated over the areas or each layer of fill to insure that the required 95% compaction of modified proctor is obtained. Special equipment shall be used if needed to obtain the required compaction.

If a minimum required density is specified, each layer of fill shall be compacted as necessary to obtain that density.

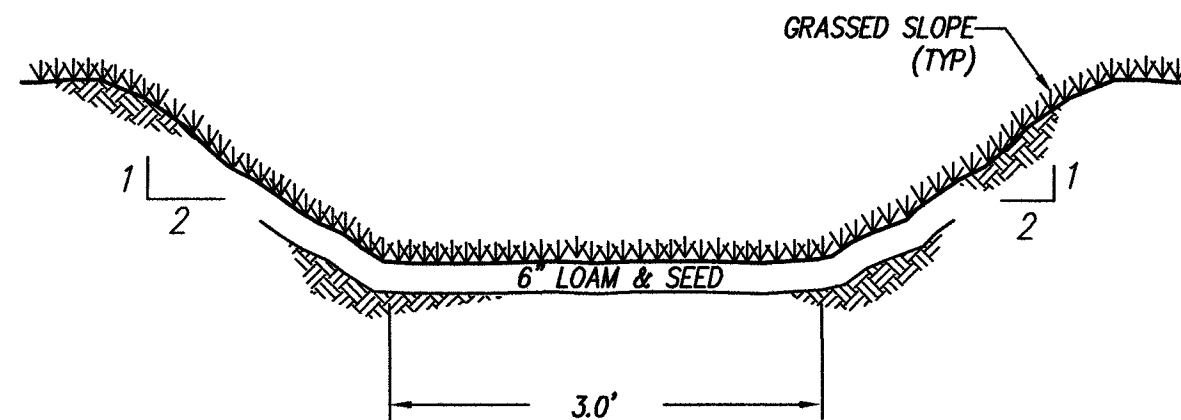
Fill adjacent to structures, pipe conduits, and antiseep collars shall be compacted to a density equivalent to that of the surrounding fill by means of hand tamping or manually directed power tamper or plate vibrators. Fill adjacent to concrete structures shall not be compacted until the concrete is strong enough to support the load.

PROTECTION — A protective cover of vegetation shall be established on all exposed surfaces of the embankment, spillway, and borrow area if soil and climatic conditions permit. If soil or climatic conditions preclude the use of vegetation and protection is needed, non-vegetative means, such as mulches or gravel, may be used. In some places, temporary vegetation may be used until conditions permit establishment of permanent vegetation. The embankment and spillway shall be fenced if necessary to protect the vegetation.

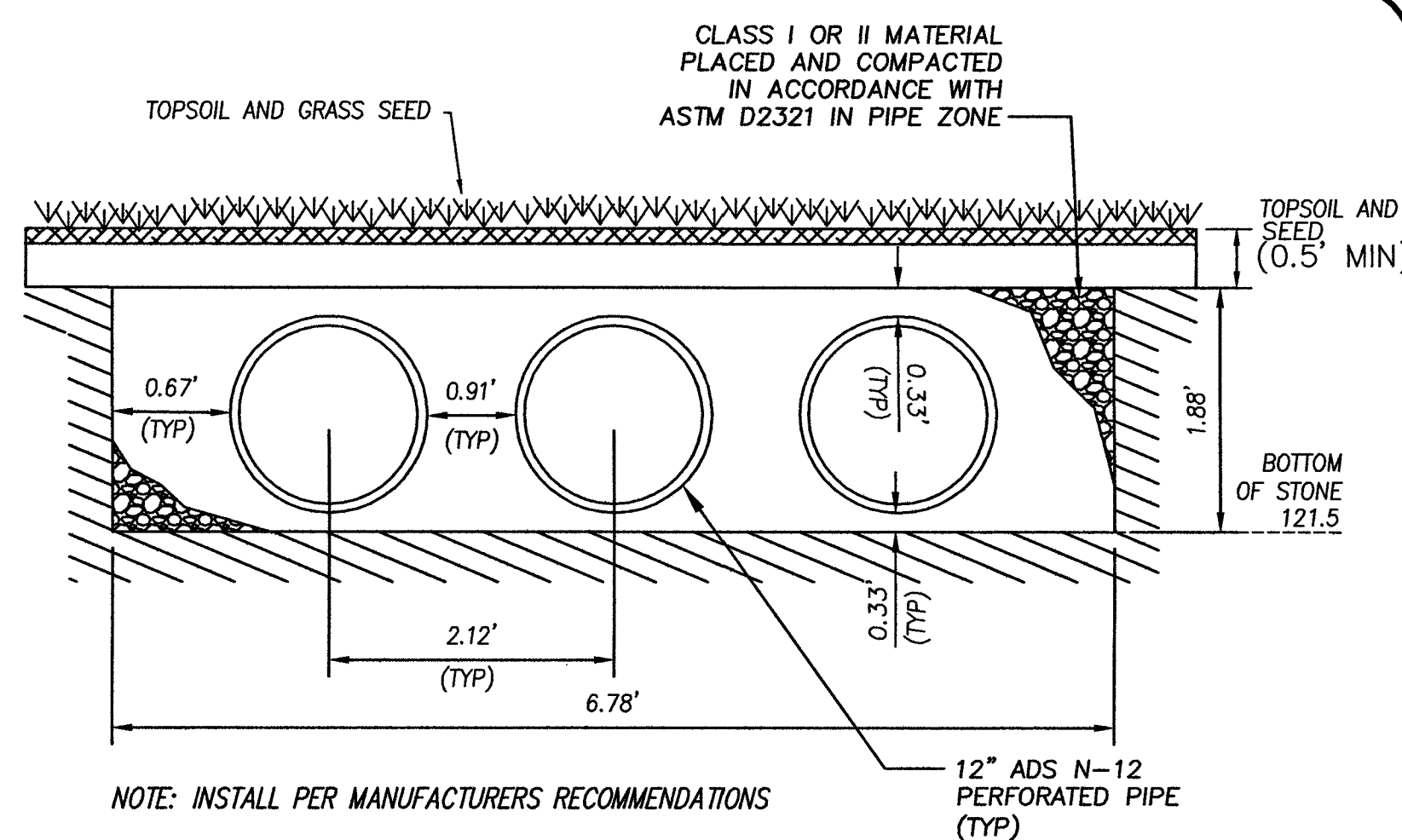
A minimum of 6" of loam shall be spread over all surfaces of the dam and basin and seeded with 'New England Erosion Control/Restoration Mix' as manufactured by 'New England Wetlands plants Inc.,' Amherst, Ma. 413-548-800, at a rate of 1lb. per 1245 SF. A 75% vegetative cover must be established before dam is active.

CONCRETE — The mix design and testing of concrete shall be consistent with the strength requirements of the job. Mix requirements or necessary strength shall be as specified. The type of cement, air entrainment, slump, aggregate, or other properties shall be as specified. All concrete is to consist of a workable mix that can be placed and finished in an acceptable manner. Necessary curing shall be as specified. Reinforcing steel shall be placed as indicated on the plans and shall be held securely in place during concrete placement. Subgrades and forms shall be installed to the line and grade, and the forms shall be mortar tight and unyielding as the concrete is placed.

PIPE CONNECTIONS — All pipe to pipe, and pipe to structure connections shall be water tight.



10 GRASS DRAINAGE SWALE
NOT TO SCALE



9 SUBSURFACE INFILTRATION BASIN
SECTION VIEW
NOT TO SCALE



FOR REGISTRY USE ONLY
CAMMETT
ENGINEERING
297 ELM STREET, AMESBURY, MA.
Phone: (978) 388-2157 Fax: (978) 388-0428
CONSULTING ENGINEERS &
LAND SURVEYORS SINCE 1975
Visit us on the WEB at www.cammett.com

Sheet Title:

Details

Project Title:

Special Permit

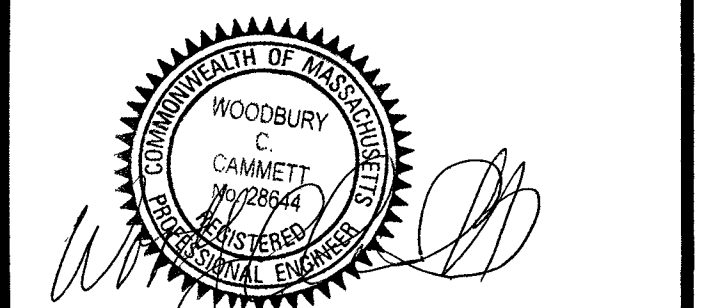
31 Newton Road
Amesbury, MA 01913
Essex County

Applicant/Owner:

**Hannah & Sean
Stellmach**

23 Spindletree Road
Amesbury, MA 01913

REVISION			
NO.	DATE	DESCRIPTION	BY



Date: July 6, 2016
PROJ. MGR.: R. BLANCHETTE
FIELD: M. MICHAUD / J. SALVAGGIO
DESIGN: R. BLANCHETTE
DRAWN: N. KOCH
CHECKED: W. CAMMETT
DATE: 7/5/16
FILE: 16025 DT.DWG
FBK:
JOB #: 16025